

4.3 Planned Outputs

A total listing of 587 **Planned Outputs** under the Mining Program for the next five years is presented in this section. Each item in this database includes a title, year produced, type of output, and the strategic goal toward which it is directed. The majority planned of outputs in the Mining Program are publications (77.3%), followed in smaller numbers by workshops, web documents, and other output types.

At the end of this section is a series of tables and pie charts showing planned outputs broken down by strategic goal, year produced and output types. There is also an explanation of how planned outputs are categorized.

587 planned outputs

Title	Year	Output Type	Strategic Goal
1st generation sensor-based system for monitoring critical operating parameters of forklifts (EIR)	2006	Patent	Traumatic injuries
25 Years of Roof Bolting Research - Art or Science? Published and presented at the 25th International Conference on Ground Control in Mining	2006	Publication	Ground control
A Case-Control Study of Mining Injuries Using Surveillance Data - peer reviewed journal article	2006	Publication	Surveillance and training
A Comparative Analysis of Safety & Health Improvements Associated with Controlled Underground Blasting - SME conference	2009	Publication	Ground control
A Comparative Analysis of Safety and Risk Potential Associated with Advances in Blasting Techniques, Processes, Technology, and Design - Ph.D. dissertation	2009	Publication	Ground control
A Comparison of Cylindrical Charge Models - Paper in the International Journal for Blasting and Fragmentation	2006	Publication	Ground control
A Comprehensive Mine-Wide Gas Flow and Emissions Model - NIOSH RI	2009	Publication	Mine disasters
A Computerized Technique for Drift Blast Round Design - peer reviewed journal article	2007	Publication	Ground control
A Continuous Personal Diesel Emission Exposure Monitor - Engineering & Mining Journal	2009	Publication	Respiratory diseases
A Description of the NIOSH Software for Controlled Blasting in Tunneling - Paper in Journal of Safety Research	2006	Publication	Ground control
A Differential Pressure Method used to Monitor Efficiencies of Diesel Emission Control Technologies - NIOSH RI	2007	Publication	Respiratory diseases
A Direct Method to Measure Relative Levels of Engine Tailpipe Diesel Particulate Matter - Journal of Aerosol Science	2006	Publication	Respiratory diseases
A field study for estimating landing forces required to exit mobile equipment, International Journal of Industrial Ergonomics	2008	Publication	Cumulative injuries
A GIS analysis of commercial vehicle crashes on Northwestern state highways - peer reviewed journal article	2006	Publication	Surveillance and training

Title	Year	Output Type	Strategic Goal
A History of Pillar Design Formulas - presented at the Ground Control Conference	2006	Publication	Ground control
A mathematical model to determine the effect of ventilation on fire spread in underground coal mines, peer reviewed publication, Fire Safety Journal	2007	Publication	Mine disasters
A New Analysis of the SveDeFo Vånga Quarry Tests - International Journal of Rock Mechanics and Mining Sciences	2007	Publication	Ground control
A new method to clean dust from soiled work clothes - Proceeding of 11th US/North American Mine Vent Symposium	2006	Publication	Respiratory diseases
A New Procedure for Damage Zone Prediction in Rock - peer reviewed journal article, ISEE Journal	2007	Publication	Ground control
A New Procedure for Damage Zone Prediction in Rock - Ph.D. dissertation	2006	Publication	Ground control
A novel approach in seat design for reducing vibration, Journal of Safety Research	2007	Publication	Cumulative injuries
A real-time mine fire simulator for smoke management in underground mines, NIOSH RI	2008	Publication	Mine disasters
A series of workshops for coal mine operators explaining the "Guidelines to Reduce Diesel Particulate Matter in Coal Mines"	2009	Workshop, Seminar, or OIB	Respiratory diseases
A series of workshops for metal/nonmetal mine operators explaining the "Guidelines to Reduce Diesel Particulate Matter in Metal, and Nonmetal Mines	2009	Workshop, Seminar, or OIB	Respiratory diseases
A Software Tool for Implementation and Evaluation of Administrative Noise Controls in Mining (Bauer, Cole) - SME 2008	2008	Publication	Hearing loss
A study of electrical injury noting long term and emerging trends, IEEE Trans. On Ind. App.	2006	Publication	Traumatic injuries
A Taxonomy-based Navigation System for Mining Health and Safety Research (Unger, Glowacki), APCOM 2007	2007	Publication	Surveillance and training
A Taxonomy-based Navigation System for Mining Safety and Health Research (Unger, Glowacki) - APCOM 2007 (Santiago, Chile)	2007	Publication	Surveillance and training
A training intervention to instill a safety and health value in young/inexperienced underground coal miners - Safety Science	2010	Publication	Surveillance and training
A training module for general inside laborers	2007	Training	Surveillance and training
Administrative Noise Control Evaluation and Implementation Tool for the Mining Industry (Bauer, Cole), Mining Engineering Magazine/Transactions (peer reviewed)	2008	Publication	Hearing loss
Advanced Hydraulic (Waterjet) Scaling Techniques - Ph.D. dissertation	2009	Publication	Ground control
Advanced website for mining information	2006	Software	Surveillance and training
Aerosol sampling as a strategy for improving worker health	2006	Workshop, Seminar, or OIB	Respiratory diseases

Title	Year	Output Type	Strategic Goal
Age Awareness Training for Miners: A Holistic Approach to Injury Reduction - peer-reviewed SME Journal	2007	Publication	Cumulative injuries
Age awareness training module - website and CD package	2006	Training	Surveillance and training
Aging and Musculoskeletal Injuries in the US Mining Industry - Journal of Safety Research	2006	Publication	Cumulative injuries
Air spray nozzles to improve capture of dry dust collectors on surface drills, Coal Age	2008	Publication	Respiratory diseases
Airborne Dust Capture and Induced Airflow of Various Spray Nozzle Designs - Journal of Occup & Environmental Hygiene	2007	Publication	Respiratory diseases
ALPS Stability Factors for Deep Western Mines. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
An Alternative Means of Assessing Blasting Productivity - Safety, Stability, Size & Speed - peer reviewed journal article, Journal of Mining Research	2007	Publication	Ground control
An American National Standards Institute standard that sets minimum performance and operational criteria for power line proximity alarms	2010	Standards	Traumatic injuries
An Analysis of Engineering Design Procedures Associated with Controlled Underground Blasting - peer reviewed journal article, Engineering and Mining Journal	2007	Publication	Ground control
An arc burn training video	2007	Video	Traumatic injuries
An Economic Evaluation of Perimeter Control Blasting in Drifting - Paper at the annual meeting of Soc. For Mining, Metallurgy, and Exploration	2006	Publication	Ground control
An Engineer-friendly Technique for Perimeter Blast Design in Drifting - Frag Blast conference	2009	Publication	Ground control
An Engineering Analysis of Controlled Underground Blasting and Performance - Ph.D. dissertation	2009	Publication	Ground control
An Epidemiological Study of Knee Injuries in Low Seam Coal Mining - to be submitted to SME (peer-reviewed)	2007	Publication	Cumulative injuries
An Evaluation of Training on Trenching and Excavation Injuries - peer reviewed journal article	2006	Publication	Surveillance and training
An MSHA arc burn safety refresher training module	2006	Training	Traumatic injuries
An Overview of Standing Support Practices and Developments. The International Journal of Rock Mechanics and Mining Science	2007	Publication	Ground control
An Update on the Metal and Nonmetal Diesel Particulate Filter Selection Guide - web based publication	2008	Web document	Respiratory diseases
Analysis of airflow data collected with an ultrasonic anemometer using Excel and Anemvent 2003, Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2007	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
Analysis of Microseismic data from the Burning Springs Mine. Published and presented at the 25th International Conference on Ground Control in Mining	2006	Publication	Ground control
Analysis of Microseismic data from the Graymont Mine, The 26th International Ground Control Conference in Mining. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication	Ground control
Analysis of Trends in Mining Injuries, 1983-2004 - peer review journal article	2006	Publication	Surveillance and training
Analyzing vibration using current available standards	2007	Software	Cumulative injuries
Annual International Workshop on VR Mining Applications and Collaboration (held in conjunction with another mining-related annual meeting)	2006	Workshop, Seminar, or OIB	Mine disasters
Annual International Workshop on VR Mining Applications and Collaboration (held in conjunction with another mining-related annual meeting)	2007	Workshop, Seminar, or OIB	Mine disasters
Annual International Workshop on VR Mining Applications and Collaboration (held in conjunction with another mining-related annual meeting)	2008	Workshop, Seminar, or OIB	Mine disasters
Annual International Workshop on VR Mining Applications and Collaboration (held in conjunction with another mining-related annual meeting)	2009	Workshop, Seminar, or OIB	Mine disasters
Apparatus to determine approximate support capacity of borehole (EIR)	2007	Patent	Ground control
Application of Systematic Safety Analysis to Improvement of Mine Safety - peer review journal article	2007	Publication	Surveillance and training
Application of the Personal Bolter Screen for Roof Control. 26th International Conference on Ground Control in Mining	2007	Publication	Ground control
Applied Ergonomics IMA-NIOSH Workshop	2006	Workshop, Seminar, or OIB	Cumulative injuries
Arc burn safety for use in MSHA-required refresher training - NIOSH Information Circular	2007	Publication	Traumatic injuries
Arc burn safety training for MSHA inspectors	2006	Workshop, Seminar, or OIB	Traumatic injuries
Arc-rated safety clothing and PPE for mine use. IEEE Trans. on Ind. App.	2008	Publication	Traumatic injuries
ARMPS-HWM Software for Highwall Mining Design - Hands-on training workshop at the National Mine Safety and Health Academy	2007	Workshop, Seminar, or OIB	Ground control
ARMPS-HWM Software for Highwall Mining Design - Hands-on training workshop at the National Mine Safety and Health Academy, May 2006	2006	Workshop, Seminar, or OIB	Ground control
Assessment of exposure of underground miners to diesel particulate matter, RI	2008	Publication	Respiratory diseases

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Assessment of Research Impact on Mining Injuries and Illnesses - peer reviewed journal article	2010	Publication	Surveillance and training
Assessment tool for low-back exposure - Journal of Applied Ergonomics	2008	Publication	Cumulative injuries
Audio version of NIOSH IC Getting to Zero-The Human Side of Mining	2006	Publication	Surveillance and training
Audio version of NIOSH RI: Tell Me A Story	2006	Publication	Surveillance and training
Babich DR [2007], Identification and Ranking of noise sources on longwall mining machines - Proceedings of NOISE-CON 2007, In: Institute of Noise Control Engineering of the USA	2007	Publication	Hearing loss
Babich DR [2008] The Relationship of Longwall Mining Systems to Workers Noise Exposure - Journal of Acoustical Society of America, Submitted to Journal. (refereed)	2007	Publication	Hearing loss
Babich DR, Bauer ER [2006], Underground bituminous coal mine noise surveys, Mining Engineering Magazine, 2006. (refereed)	2006	Publication	Hearing loss
Backfill Span Stability Study at the Turquoise Ridge Mine, NV - Proceedings of the U.S. Rock Mechanics Symposium	2006	Publication	Ground control
Bag design characteristics and the reduction of ergonomic risk factors - Journal of Applied Ergonomics	2007	Publication	Cumulative injuries
Barrett EA, Calhoun RA. Noise and hearing protection training for drillers. Professional Safety, In review, Dec, 2005: 18 pages. (refereed)	2006	Publication	Hearing loss
Bauer ER, Babich DR [2006]. Administrative controls for reducing worker noise exposures. Trans Soc Min Eng, Vol. 318. (refereed)	2006	Publication	Hearing loss
Bauer ER, Babich DR [2007]. Guidelines for measuring noise levels of longwall mining machines in underground coal mines - Trans Soc Min Eng (refereed)	2007	Publication (guidelines)	Hearing loss
Bauer ER, Babich DR, [2006], Limestone - Is it noisy or not?, Society of Mining Engineering Annual Meeting, preprint, Mar 2006	2006	Publication	Hearing loss
Bauer ER, Babich DR, Vipperman JS [2006]. Equipment noise and worker exposure in the coal mining industry. Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No., IC, In review.	2006	Publication	Hearing loss
Behavior of Nitrogen Oxides in the Product Gases from Explosive Detonations, Published and presented at the 32nd Annual ISEE Conference	2006	Publication	Traumatic injuries
Benching Effects on Roof Stability in an Underground Stone Mine. Peer-reviewed Geotechnical Engineering Journal	2009	Publication	Ground control
Benchmarking Effective Longwall Dust Controls - proceedings of Longwall USA	2007	Publication	Respiratory diseases

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Benefits of using the Low Back Assessment tool and its effectiveness in diagnosing problem areas. To be submitted to Occupational Ergonomics and for a NIOSH Informational Circular	2007	Publication	Cumulative injuries
Best practices for welding with high manganese rods (hardfacing), NIOSH RI	2010	Publication	Surveillance and training
Best Support Practices in Weak Rock. Mining Engineering Journal	2007	Publication	Ground control
Blast Damage Measured From Empirical Viewpoint - ISEE conference	2007	Publication	Ground control
Blast Design and Implementation Based on NIOSH's New Controlled Blasting Program - SME conference	2009	Publication	Ground control
Blasting Response in a Weak Rock Mass and Its Effect on Ground Support/Ground Instability - Paper in the Proceedings of the International Conference on Mechanics of Jointed and Faulted Rock	2007	Publication	Ground control
Bplane, Bstepp, and Bwedge computer programs for catch bench effectiveness analysis	2006	Software	Ground control
Brochure for regional school districts on the Silver Kid Mine	2006	Publication	Surveillance and training
Bugarski, A.D. and Schnakenberg, G.H. Effects of Control Technologies on Diesel Emissions in Underground Mines. NIOSH Report of Investigation. 2008	2008	Publication	Respiratory diseases
Bulkhead Designs and Performance Case Histories - Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2006	Publication	Mine disasters
Byrne DC [2006]. Effectiveness of electronic earmuffs for underground miners. Mining Engineering Magazine (refereed).	2006	Publication	Hearing loss
Byrne DC, Reeves ER [2006]. Analysis of non-standard noise dosimeter microphone positions. Journal of the Acoustical Society of America. (refereed)	2006	Publication	Hearing loss
Cab fire prevention/suppression system for large mining equipment, NIOSH RI	2007	Publication	Mine disasters
Case Study of Web Barrier Pillar Collapse. Annual SME Meeting and Conference, 2009	2009	Publication	Ground control
Causative Factors for Frictional Ignitions in U.S. Coal Mines - Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2007	Publication	Mine disasters
CFD Modeling of Fire Spread Along Combustibles in a Mine Entry -Transactions, Society for Mining, Metallurgy and Exploration, Denver, peer reviewed	2006	Publication	Mine disasters
Characterizing Dust Exposures and Controls for Mines Operating in the Southern Appalachian Region - Coal Age	2008	Publication	Respiratory diseases
Checklist for evaluating cab design characteristics: a validity and reliability study, Journal of Occupational and Environmental Hygiene	2007	Publication	Cumulative injuries
Chemical and physical characterization of nanoparticles emitted from diesel engines - RI	2010	Publication	Respiratory diseases

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CO Dispersion From a Coal Mine Fire in a Mine Entry, Proceedings, 11th U. S. Mine Ventilation Symposium, State College	2006	Publication	Mine disasters
Coal dust exposure and ischemic heart disease mortality among a cohort of underground coal miners, JOEH	2007	Publication	Respiratory diseases
Communications and decision making during the initial phase of a mine emergency, Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2007	Publication	Mine disasters
Comparison of Responses of Instrumented Bolts and Rock Strain Strips in Weak Roof - Paper at Ground Control Conference	2006	Publication	Ground control
Comparison of SEM and Coke Analyses of Post-Explosion Dust Samples - Briefing Report to MSHA	2006	Publication	Mine disasters
Comparison of XRF and wet chemical analysis of air filter samples from a lead/zinc/silver ore concentrator, Journal of Environmental Monitoring	2006	Publication	Surveillance and training
Comparison of XRF and wet chemical analysis of air filter samples from a primary copper smelter, Journal of Environmental Monitoring	2008	Publication	Surveillance and training
Comparison of XRF and wet chemical analysis of air filter samples from a secondary lead smelter, Journal of Environmental Monitoring	2007	Publication	Surveillance and training
Comprehensive Ground Control Design Methodology for Weak Roof - 28th International Conference on Ground Control in Mining	2009	Publication	Ground control
Control of Hazards in Underground Stone Mines. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
Control strategies for mobile workers in processing operations, Rock Products Magazine	2007	Publication	Respiratory diseases
Control Technologies Being Used to Control Silica Exposures in Mineral Processing Plants - Aggregates Manager	2008	Publication	Respiratory diseases
Controlling Dust Generation in a Dimension Stone Shop with a Low-Pressure Scrubber - Rock Products Magazine	2006	Publication	Respiratory diseases
Cost modeling in occupational safety and health, NIOSH eNews	2006	Publication	Surveillance and training
Cost models for application to NIOSH safety research of engineering solutions - NIOSH eNews and CDC Connects	2008	Publication	Surveillance and training
Crystalline Silica Analysis: A Comparison of Calibration Materials and Recent Coal Mine Dust Size Distributions - Journal of ASTM Intl	2006	Publication	Respiratory diseases
Damage zone in the Vicinity of a Charge From Model Tests - US Symposium on Rock Mechanics	2008	Publication	Ground control
Dangers of Toxic Fumes from Blasting. Mining Engineering, Refereed Journal	2007	Publication	Traumatic injuries
Data Mining the Mine Safety and Health Database on Mining Injuries and Illnesses - peer reviewed journal article	2006	Publication	Surveillance and training

Title	Year	Output Type	Strategic Goal
Deformation in Undercut Backfill Cap - CIM	2006	Publication	Ground control
Design and performance criteria for power line proximity and contact alarm systems. IEEE Trans. on Ind. App.	2008	Publication	Traumatic injuries
Design Criteria for Dragline Workstations - NIOSH Information Circular	2007	Publication	Cumulative injuries
Design for Predicating, Preventing, and Controlling Multiple Seam Interactions - 25th International Conference on Ground Control in Mining	2006	Publication	Ground control
Design Guidelines for Dry-Stacked Mine Ventilation Stoppings. Published at the North American Ventilation Conference, 2006	2006	Publication (guidelines)	Ground control
Design Issues Related to the Strength of Slender Limestone Pillars - 2006 meeting of the Society for Mining, Metallurgy, and Exploration (SME)	2006	Publication	Ground control
Design of Coal Mine Stoppings. The US Ventilation Symposium	2008	Publication	Ground control
Design Procedures for Stable Roof Spans in Underground Limestone Mines - Mining Engineering (refereed journal)	2008	Publication	Ground control
Designing a Large Opening Mine using Ventilation Considerations - Aggregate Manager Magazine	2007	Publication	Mine disasters
Designing for Maintainability : Guidelines for Designers and Maintenance Personnel - NIOSH Information Circular	2007	Publication	Cumulative injuries
Designing for Maintainability : Guidelines for Designers and Maintenance Personnel - web version	2007	Web document	Cumulative injuries
Designing with a Purpose: Equipment Issues in Mining - SME journal (peer reviewed)	2007	Publication	Cumulative injuries
Detailed application of cost models in occupational safety and health - NIOSH IC	2008	Publication	Surveillance and training
Determination of the Sizes of Coal Dust in Intakes and Returns of Underground Mines - NIOSH RI	2007	Publication	Mine disasters
Determination of the Sizes of Coal Dust in Intakes and Returns of Underground Mines - peer reviewed journal publication	2007	Publication	Mine disasters
Determining blind areas near large surface mining equipment: methods and results - Journal of Safety Research	2007	Publication	Traumatic injuries
Determining the status of mine atmospheres following indication of fire (SME 2006 Annual Meeting Preprint)	2006	Publication	Mine disasters
Develop field portable method for manganese on air filters, Journal of Environmental Monitoring	2007	Publication	Surveillance and training
Develop Guidelines for Installing and Using a Sensor-Based Roof Fall Warning System. International Journal of Rock Mechanics and Mining Science	2008	Publication	Ground control
Develop, evaluate and transfer technologies to enhance the safety and effectiveness of mine emergency responders, such as the Transtek Res-Q-Com communication system for mine rescue teams, directional lifelines, team link lines, novel lighting devices, and thermal imaging cameras [2007], NIOSH RI	2007	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
Developing a metric for defining and evaluating process element activities and the effects of these activities on MSD incident rates and other outcome measures. To be submitted to Applied Ergonomics	2007	Publication	Cumulative injuries
Development of a Methodology for Tread Study - to be submitted to Human Factors	2007	Publication	Cumulative injuries
Development of a metric that can be used to evaluate the effectiveness of ergonomics processes. To be submitted to Applied Ergonomics	2007	Publication	Cumulative injuries
Development of a Taxonomy for Indexing Web-based Mining Health and Safety Research (Glowacki, Unger), Journal of Digital Information (peer-reviewed)	2007	Publication	Surveillance and training
Development of a Taxonomy for Indexing Web-based Mining Safety and Health Research (Glowacki, Unger) - Journal of Digital Information (peer-reviewed)	2007	Publication	Surveillance and training
Development of an Administrative Noise Control Tool Using LabVIEW (Cole, Bauer), APCOM 2007	2007	Publication	Hearing loss
Development of cost models specifically for application to NIOSH safety research of engineering solutions to reduce workplace injuries and fatalities, Systems Engineering	2008	Publication	Surveillance and training
Development of Criteria for the Evaluation of Ingress/Egress Systems for the Risk of Injuries - Journal of Industrial Ergonomics	2007	Publication	Cumulative injuries
Development of Design Guidelines for Stable Roof Spans in Limestone Mines - 2008 U.S. Rock Mechanics Symposium	2008	Publication	Ground control
Development of first generation forklift operating warning system (FLOWS), Employee Invention Report (EIR)	2006	Patent	Traumatic injuries
Development of sensor-based system into tool to improve forklift operator training	2007	Training	Traumatic injuries
Development of Strain Softening Materials for Coal Mine Stoppings. The US Rock Mechanics Symposium, 2008	2008	Publication	Ground control
Diesel engine emissions research facility at Lake Lynn Laboratory - NIOSH IC	2007	Publication	Respiratory diseases
Differential Pressure Method to Measure Elemental Carbon in Undiluted Diesel Exhaust - Environmental Science & Technology	2006	Publication	Respiratory diseases
Digital Imaging for Mine Slope Monitoring - NIOSH IC	2009	Publication	Ground control
Digital Imaging System for Mine Slope Monitoring - NIOSH RI	2007	Publication	Ground control
Drift Driving Field Studies With Focus on Minimizing Overbreak and Perimeter Damage - International society of explosives engineers symposium on explosive and blasting research proceedings	2009	Publication	Ground control
Dust Control for Mines Operating in the Southern Appalachian Region - workshops in KY, VA and WV	2009	Workshop, Seminar, or OIB	Respiratory diseases

Title	Year	Output Type	Strategic Goal
Dust Control Handbook for Mineral Processing Operations - NIOSH IC	2009	Publication	Respiratory diseases
Dust Controls on Longwalls - Assessment of the State-of-the-Art - proceedings 11th US/North American Mine Vent Symposium	2006	Publication	Respiratory diseases
Dust Dispersion in the 20 L Siwek Chamber - Journal of Loss Prevention in the Process Industries, peer reviewed	2006	Publication	Mine disasters
Economic Analysis of Roof Screen Installation in the Underground Coal Mines. Annual Meeting of the American Society of Safety Engineers	2008	Publication	Ground control
Economic models flowchart, NIOSH IC	2006	Publication (guidelines)	Surveillance and training
Effect of Blast Damage on the RMR for Mining Applications - ISEE Journal (peer reviewed)	2008	Publication	Ground control
Effect of Time and Moisture on the Strength of Coal Measure Rocks - US-Canada Rock Mechanics Symposium, Vancouver, Canada	2007	Publication	Ground control
Effectiveness of Adjustability in Dragline Workstations - SME journal or Applied Ergonomics (peer reviewed)	2007	Publication	Cumulative injuries
Effects of blasting on weak RMR - ISEE conference paper	2007	Publication	Ground control
Effects of Coal Mine Diesel Emission Control Technologies - NIOSH RI	2007	Publication	Respiratory diseases
Effects of Fiber Types on Resin Reinforced Shotcrete Panels - International Conference on Ground Control in Mining	2007	Publication	Ground control
Effects of scrubber usage on intake airflow patterns and intake flow quantities - Proceedings, 11th US/North American Ventilation Symposium, State College, PA	2006	Publication	Mine disasters
Effects of water sprays on airflow movement and methane dilution at the working face - Proceedings, 11th US/North American Ventilation Symposium, State College, PA	2006	Publication	Mine disasters
Electrical arcing-fault safety measures for mining. IEEE Trans. on Ind. App.	2007	Publication	Traumatic injuries
Electrical safety in small mines	2006	Video	Traumatic injuries
Emergency response virtual reality training	2007	Training	Surveillance and training
Emerging Technologies Control Respirable Dust Exposures for Continuous Miner and Roof Bolter Personnel - Accepted for presentation and publication at 11th US/North American Mine Ventilation Symposium, Pennsylvania State University, State College, PA, June 5-7, 2006	2006	Publication	Respiratory diseases
Empirical Ground Support and Blast Design, Book, Hustrulid, SME 2008	2008	Publication	Ground control
Ergonomics awareness training module	2006	Web document	Cumulative injuries

Title	Year	Output Type	Strategic Goal
Establishing More Appropriate Design Criteria for Mine Ventilation Stoppings - Annual SME Meeting, February 2007	2007	Publication	Ground control
Estimation of landing forces at different heights when assuming different postures: a laboratory study, International Journal of Industrial Ergonomics	2008	Publication	Cumulative injuries
Evaluating flow turbulence at the mining face and evaluating its impact on face methane levels - Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2007	Publication	Mine disasters
Evaluating the Risk of Knee Injury Using a Finite Element Model of the Knee - Occupational Biomechanics journal (peer-reviewed)	2007	Publication	Cumulative injuries
Evaluation of a Continuously Regenerating Diesel Emission Trap for use Underground - proceedings of the Mining Diesel Emission Conference	2007	Publication	Respiratory diseases
Evaluation of Different Boot Tread Designs in Different Environments to Reduce the Risk of Slips and Fall in the Mining Industry - to be submitted to Ergonomics	2007	Publication	Cumulative injuries
Evaluation of Geophysical Techniques for Predicting Rock Strength from Boreholes - 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
Evaluation of Remotely Installed Mine Seals for Fire Control, Proceedings, 11th U. S. Mine Ventilation Symposium, State College	2006	Publication	Mine disasters
Evaluation of SKC Inc. Dust Detective - Journal of Aerosol Science and Technology	2007	Publication	Respiratory diseases
Evaluation of the physiological stress experienced while carrying, raising, and manipulating the bar as well as the subtask of jabbing the bar against the wall - to be submitted to Journal of Safety Research	2007	Publication	Cumulative injuries
Evaluation of the Transverse Load Capacity of Block Stoppings for Mine Ventilation Controls (PhD dissertation)	2006	Publication	Ground control
Evaluation of the VR and CBT Map Reading Training, Journal of Safety Research	2006	Publication	Mine disasters
Evaluation of the VR Mine Evacuation Training Module, International Journal of Emergency Management	2009	Publication	Mine disasters
Evaluation of VR training deployment strategies, NIOSH RI	2007	Publication	Mine disasters
Examples and Strategies for using the PDM to Reduce Miners' Exposures to Respirable Dust - Coal Age	2007	Publication	Respiratory diseases
Explosion Evaluations of Mine Ventilation Stoppings - Proceedings, 11th U.S./North American Mine Ventilation Symposium, State College	2006	Publication	Mine disasters
Explosion Temperatures of Metals and Other Elemental Dusts - Combustion and Flame, peer reviewed	2008	Publication	Mine disasters
Extreme Multiple Seam Mining Conditions in Central Appalachia. Published and presented at the 25th International Conference on Ground Control in Mining	2006	Publication	Ground control
Extreme Multiple Seam Mining in the US - SME Annual Meeting	2006	Publication	Ground control

Title	Year	Output Type	Strategic Goal
Factors Impacting Shield Dust Entrainment in High Velocity Airstreams - SME transactions	2008	Publication	Respiratory diseases
Factors Impacting Successful Dust Control in Small Mines - SME Transactions	2008	Publication	Respiratory diseases
Field Evaluation of a Dust Explosibility Meter - Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2006	Publication	Mine disasters
Field evaluation of muscle fatigue while using an intervention for low back discomfort among operators of mobile equipment, Journal of Biomechanics	2006	Publication	Cumulative injuries
Field evaluation of the effectiveness of an intervention for reducing low back discomfort among long-haul truck drivers, International Journal of Industrial Ergonomics	2007	Publication	Cumulative injuries
Field evaluation of the effectiveness of an intervention for reducing low back discomfort among operators of mobile equipment, International Journal of Industrial Ergonomics	2006	Publication	Cumulative injuries
Field evaluation of the effects of whole-body vibration on operators' postural stability, Journal of Occupational and Environmental Hygiene	2008	Publication	Cumulative injuries
Field study to evaluate the effectiveness of an intervention for reducing low back discomfort among long-haul truck drivers, International Journal of Industrial Ergonomics	2008	Publication	Cumulative injuries
Final rule for High-Voltage Continuous Mining Machines	2010	Standards	Traumatic injuries
Fire detection and suppression systems for cabs of large mining equipment - peer reviewed publication, Fire Safety Journal	2006	Publication	Mine disasters
Fire detector evaluation for use in M/NM mines - peer-reviewed journal publication	2007	Publication	Mine disasters
Fire Generated Smoke Reversal Through Crosscuts From Return to Intake---Experimental and Computational Study, Proceedings, 11th U. S. Mine Ventilation Symposium, State College	2006	Publication	Mine disasters
Fire safety training - NIOSH workshop for M/NM mines	2007	Workshop, Seminar, or OIB	Mine disasters
Fire safety training - NIOSH workshop for M/NM mines (April, 2006)	2006	Workshop, Seminar, or OIB	Mine disasters
Fire safety training manual for M/NM mines - NIOSH RI	2007	Publication	Mine disasters
Fitchcheck Software	2006	Software	Hearing loss
Flyrock brochures and video. NIOSH Toolbox Training Materials	2006	Publication	Ground control
Forklift Operator Training System, Paper in Journal of Safety Research - peer reviewed journal article	2007	Publication	Traumatic injuries
Fragmentation Methods and Ground Control Safety: A Blast Quality Measurement Trial - M. Sc. Thesis	2006	Publication	Ground control

Title	Year	Output Type	Strategic Goal
Frictional Ignitions of Methane-Air in the Presence of Heavier Hydrocarbons - NIOSH Tech News	2006	Publication	Mine disasters
From Theory to Practice: Examining Diesel Exhaust Filter Implementation and Performance in the Jerritt Canyon Mine - NIOSH RI	2007	Publication	Respiratory diseases
Fundamental Studies of Ground Failure - Report describing method to detect the location and timing of roof falls in underground non-metal mines - Canadian Institute of Mining conference	2008	Publication	Ground control
Gallagher, S., Marras, W.S., Litsky, A.S., and Burr, D., Factors Associated with Specific Failure Modes in Fatigue Testing of Human Lumbosacral Motion Segments, Clinical Biomechanics. In press	2006	Publication	Cumulative injuries
Gallagher, S., Marras, W.S., Litsky, A.S., and Burr, D., in press. Factors Associated with Specific Failure Modes in Fatigue Testing of Human Lumbosacral Motion Segments, accepted for publication in the journal Clinical Biomechanics	2006	Publication	Cumulative injuries
Gallagher, S., Marras, W.S., Litsky, A.S., and Burr, D., in review. The influence of bone mineral content and specimen morphology on the risk of fatigue failure of lumbar motion segments, European Spine Journal	2006	Publication	Cumulative injuries
Gob ventilation computer model to optimize the ventilation schemes to control spontaneous combustion in the U.S. underground coal industry [2009], Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2009	Publication	Mine disasters
Ground Control for Underground Coal Mines Bleeder Systems. Published and presented at the 25th International Conference on Ground Control in Mining	2006	Publication	Ground control
Ground Control in Australian Weak Roof Mines - US-Canada Rock Mechanics Symposium, Vancouver, Canada	2007	Publication	Ground control
Ground-based Radar for Mine Slope Monitoring - NIOSH RI	2006	Publication	Ground control
Guidelines and Seminars: implementing CBT and VR mine safety training	2007	Workshop, Seminar, or OIB	Mine disasters
Guidelines and Seminars: implementing CBT and VR mine safety training	2008	Workshop, Seminar, or OIB	Mine disasters
Guidelines and Seminars: implementing CBT and VR mine safety training	2009	Workshop, Seminar, or OIB	Mine disasters
Guidelines for a new miner curriculum	2008	Video	Surveillance and training
Guidelines for flame cutting and welding and fire prevention in underground coal mines - NIOSH RI	2008	Publication	Mine disasters
Guidelines for optimizing dust control for enclosed cabs on mobile mining equipment - NIOSH RI	2007	Publication (guidelines)	Respiratory diseases

Title	Year	Output Type	Strategic Goal
Guidelines for reducing the risk of injury while working in low seam coal mines - peer-reviewed SME journal	2007	Publication	Cumulative injuries
Guidelines for the development of a new miner training curriculum - NIOSH IC	2006	Publication	Surveillance and training
Guidelines for the Selection of Tread Design and Materials for Mine Worker Boots - peer-reviewed SME journal	2007	Publication	Cumulative injuries
Guidelines for tread design	2007	Video	Cumulative injuries
Guidelines on best support practices in weak roof rock. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication (guidelines)	Ground control
Guidelines on designing for ingress/egress from equipment - International Journal of Ergonomics	2007	Publication (guidelines)	Cumulative injuries
Guidelines on effective engineering noise controls for horizontal vibrating screens - NIOSH numbered publication	2008	Publication (guidelines)	Hearing loss
Guidelines on effective engineering noise controls for horizontal vibrating screens - Web content	2008	Web document	Hearing loss
Guidelines on effective engineering noise controls for roof bolting machines - NIOSH numbered publication	2006	Publication (guidelines)	Hearing loss
Guidelines on effective engineering noise controls for roof bolting machines - Web content	2006	Web document	Hearing loss
Guidelines on HASARD technology for underground mining applications, NIOSH IC	2006	Publication (guidelines)	Traumatic injuries
Guidelines on purchasing bags with potential for reduction of ergonomic risk factors - NIOSH Information Circular	2007	Publication	Cumulative injuries
Guidelines on railcar ergonomics in the mining industry - NIOSH Information Circular	2007	Publication	Cumulative injuries
Guidelines to Reduce Diesel Particulate Matter in Coal, Metal, and Nonmetal Mines - NIOSH RI	2009	Publication	Respiratory diseases
Guidelines to Reduce Diesel Particulate Matter in Coal, Metal, and Nonmetal Mines." - NIOSH internet	2009	Web document	Respiratory diseases
Handbook for Methane Control in Mining - NIOSH IC	2006	Publication	Mine disasters
Healthy knee module	2006	Training	Cumulative injuries
Highwall Guidelines - Annual SME Meeting, February 2007	2007	Publication	Ground control
Highwall Web and Barrier Designs for Western Mines. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
How well do new miners perform critical mining tasks? - Journal of Safety Research	2008	Publication	Surveillance and training
Hydraulic fluid flammability and fire resistance - Journal of Loss Prevention in the Process Industries, peer reviewed	2006	Publication	Mine disasters
Identification of noise sources on roof bolters - Noise-Con 2006	2006	Publication	Hearing loss
Impact of fan type for reducing respirable dust at an underground limestone crushing facility, SME Transactions	2007	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
Impact of Structural Design on Dust Levels in Mineral Processing Plants - NIOSH RI	2006	Publication	Respiratory diseases
Implementation of an ergonomics process by the Badger Mining Company - SME journal (peer reviewed)	2007	Publication	Cumulative injuries
Implementation of an ergonomics process by the Vulcan Mining Company - SME journal (peer reviewed)	2007	Publication	Cumulative injuries
Implementing Infrared Determination of Quartz Particulates on Novel Filters for a Prototype Dust Monitor - Journal of Occupational and Environmental Hygiene	2007	Publication	Respiratory diseases
Improved external spray systems for longwall shearers, Proceedings of Longwall USA	2008	Publication	Respiratory diseases
Improved System for Insert-Type Hearing Protector Fit-Testing (Kwitowski, Randolph) - Ear and Hearing Magazine (refereed)	2007	Publication	Hearing loss
Improved Utilization of Water Sprays for Reducing Worker Dust Exposure in Mining - Mining Engineering	2009	Publication	Respiratory diseases
Improving Access to Mining Safety and Health Information (Glowacki, Unger) - SME Annual Meeting	2007	Publication	Surveillance and training
Improving Access to Mining Safety and Health Information (Glowacki, Unger) - SME Annual Meeting	2008	Publication	Surveillance and training
Improving Face Ventilation in Large Opening Mines - Society for Mining, Metallurgy and Exploration Annual meeting, peer reviewed	2009	Publication	Mine disasters
In-Mine Evaluation of Firefighting High-Expansion Foam - Proceedings, 11th US/North American Ventilation Symposium, State College, PA	2006	Publication	Mine disasters
Instructor's manual for the MSD Risk Factor Awareness Train-the-Trainer course (Wiehagen-W, Torma-Krajewski-J, Steiner-L), NIOSH IC	2006	Publication	Cumulative injuries
Instrumentation for DPM emissions research, Journal of Aerosol Science	2007	Publication	Respiratory diseases
Interventions and Recommendations for Roof Meshing	2007	Video	Cumulative injuries
Interventions to reduce MSDs in maintenance tasks	2008	Video	Cumulative injuries
Investigating Criteria for the Evaluation of Ingress/Egress Systems on Wheel Loaders - Conference proceedings, International Ergonomics Association Meeting (Maastricht, Netherlands).	2006	Publication	Cumulative injuries
Journal Article on Why Stories Matter, Journal of Adult and Continuing Education	2006	Publication	Surveillance and training
Journal of Acoustical Society of America: Nonmetal Mine Noise Surveys, 2009. (refereed)	2009	Publication	Hearing loss
Jurovcik P [2007]. Underground evaluation of a jacketed tail roller as an effective engineering noise control for continuous mining machines, Society for Mining, Metallurgy, and Exploration, Inc., 2007 SME Conference	2007	Publication	Hearing loss

Title	Year	Output Type	Strategic Goal
Jurovcik P [2008]. Evaluation of a jacketed tail roller as an effective engineering noise control for continuous mining machines. In: Proceedings of NOISE-CON 2008: Institute of Noise Control Engineering of the USA	2008	Publication	Hearing loss
Kissell, F (ed.) - Methane Control Handbook - DPRB researchers prepared three chapters for this handbook: Explosion Hazards of Coal Dust in the Presence of Methane; Geologic Features and their Influence on Mine Gas Emissions; Forecasting Gas Content, Gas Emissions, and Gas Production from Coalbeds, NIOSH numbered publication	2006	Publication	Mine disasters
Laboratory Determination of Dynamic Rock Properties - Paper in the International Journal of Rock Mechanics and Mining Science	2006	Publication	Ground control
Limiting Oxygen Concentrations for Gases and Gaseous Mixtures - Journal of Loss Prevention in the Process Industries, peer reviewed	2006	Publication	Mine disasters
Locating a Filter Medium Suitable for Quartz Analysis with the Personal Dust Monitor - proceedings SME Annual Meeting	2007	Publication	Respiratory diseases
Long-term Rock and Backfill Monitoring Using Vibrating Wire Instruments - paper in Field Measurements in Geomechanics	2007	Publication	Ground control
Longwall Dust Control Handbook - NIOSH IC	2007	Publication	Respiratory diseases
Lowering respirable dust at an iron ore concentrator plant through improved ventilation practices and other dust control methods - Proceeding of 11th US/North American Mine Vent Symposium	2006	Publication	Respiratory diseases
Machine powered personal cooling system, SME Proceedings	2008	Publication	Surveillance and training
Manganese method, NIOSH Manual of Analytical Methods	2008	Publication	Surveillance and training
Manual for Bulkhead Design, Construction, Operation, Monitoring and Emergency Planning and Management - NIOSH RI	2007	Publication	Mine disasters
Material handling project safety training, CD ROM	2006	Training	Traumatic injuries
Measurement of Anchorage Capacity in Borehole With Simple Device - Ground Control conference	2007	Publication	Ground control
Measuring diesel particulate matter in underground mines using sub micron elemental carbon as a surrogate - Proceeding of 11th US/North American Mine Vent Symposium	2006	Publication	Respiratory diseases
Measuring Job Safety and Health with Injury and Illness Statistics - peer reviewed journal article	2006	Publication	Surveillance and training
Mesh Material - Ergo Trials. Conference proceedings, International Ergonomics Association, 2006	2006	Publication	Ground control
Methane control/emissions modeling, applications for mine safety, and recommendations for control of frictional ignitions - NIOSH Open Industry Briefings	2009	Workshop, Seminar, or OIB	Mine disasters

Title	Year	Output Type	Strategic Goal
Method and apparatus for dozer remote control, IEEE Trans. On Ind. App.	2007	Publication	Traumatic injuries
Mine Accident, Injury, and Illness Data Exploration Tools (MAIIDEETS) update	2006	Web document	Surveillance and training
Mine Accident, Injury, and Illness Data Exploration Tools (MAIIDEETS) update	2007	Web document	Surveillance and training
Mine Accident, Injury, and Illness Data Exploration Tools (MAIIDEETS) update	2008	Web document	Surveillance and training
Mine Accident, Injury, and Illness Data Exploration Tools (MAIIDEETS) update	2009	Web document	Surveillance and training
Mine Accident, Injury, and Illness Data Exploration Tools (MAIIDEETS) update	2010	Web document	Surveillance and training
Mine Fire Preparedness and Response Checklist for Underground Metal and Non-Metal Mines - NIOSH IC	2006	Publication	Mine disasters
Mine map reading computer-based training	2006	Training	Surveillance and training
Mine rescue training simulations, mine emergency response development (MERD) exercises, and smoke evacuation exercises at Lake Lynn Laboratory and mine sites for over 600 mineworkers	2007	Workshop, Seminar, or OIB	Mine disasters
Mine Slope Monitoring Best Practices - NIOSH IC	2006	Publication (guidelines)	Ground control
Miners' opinions about the PDM and how they can be used to reduce respirable dust exposure - Journal of Intl Society for Respiratory Protection	2007	Publication	Respiratory diseases
Miners' Opinions about the PDM and how they can be used to Reduce Respirable Dust Exposure - proceedings SME conference	2007	Publication	Respiratory diseases
Mining Engineering Journal article: Noise Surveys at Surface and Underground Stone Mines, 2007. (refereed)	2007	Publication	Hearing loss
Mining Fact Sheets (i.e., Mining, Underground Mining, Surface Mining) - NIOSH numbered publication	2006	Publication	Surveillance and training
Mining Fact Sheets (i.e., Mining, Underground Mining, Surface Mining) - NIOSH numbered publication	2007	Publication	Surveillance and training
Mining Fact Sheets (i.e., Mining, Underground Mining, Surface Mining) - NIOSH numbered publication	2008	Publication	Surveillance and training
Mining Fact Sheets (i.e., Mining, Underground Mining, Surface Mining) - NIOSH numbered publication	2009	Publication	Surveillance and training
Mining Fact Sheets (i.e., Mining, Underground Mining, Surface Mining) - NIOSH numbered publication	2010	Publication	Surveillance and training
Mining Fact Sheets for 2004 (i.e., Mining, Underground Mining, Surface Mining) - NIOSH numbered publication	2006	Publication	Surveillance and training
Mining Safety & Health Thesaurus - Users Manual (Glowacki, Unger), NIOSH Numbered Publication	2007	Publication	Surveillance and training
Modifying the Structure of Processing Plants to Reduce Dust Levels - Aggregates Manager	2008	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
Monitoring Longwall Coal Mine Seismicity With a Wireless Strong-Motion Accelerometer Network- Paper in the Proceedings of the U.S. Rock Mechanics Symposium	2006	Publication	Ground control
Monitoring Regional Ground Conditions During Pillar Extraction - paper at U.S. Rock Mechanics Symposium	2009	Publication	Ground control
MSD Risk Factor Awareness Train-the-Trainer Module to safety and health representatives of US Silica (Berkeley Springs, WV)	2006	Training	Cumulative injuries
MSD Risk Factor Awareness Train-the-Trainer Module to safety and health representatives of Vulcan Materials Company	2006	Training	Cumulative injuries
MSD Risk Factor Awareness Training Module at Badger Mining Company (Fairwater and Taylor Mines)	2006	Training	Cumulative injuries
MSHA [2007]. Jacketed tail roller - Program Information Bulletin P04-18 [2007], "Technologically Achievable, Administratively Achievable, and Promising Noise Controls," 30 CFR Part 62	2007	Standards	Hearing loss
MSHA [2007]. Noise treatments for a dust collector fan - Program Information Bulletin P04-18 [2007], "Technologically Achievable, Administratively Achievable, and Promising Noise Controls," 30 CFR Part 62	2007	Standards	Hearing loss
MSHA [2008]. Information Bulletin P04-18, Roof bolting machine engineering controls, "Technologically Achievable, Administratively Achievable, and Promising Noise Controls 30 CFR Part 62	2008	Standards	Hearing loss
MSHA [2009]. Information Bulletin P04-18 Vibrating screen engineering control, "Technologically Achievable, Administratively Achievable, and Promising Noise Controls 30 CFR Part 62	2009	Standards	Hearing loss
MSHA data files (final year-end release) in SPSS, dBaseIV, and SAS formats -- available on the NIOSH Mining Internet	2007	Web document	Surveillance and training
MSHA data files (final year-end release) in SPSS, dBaseIV, and SAS formats -- available on the NIOSH Mining Internet	2008	Web document	Surveillance and training
MSHA data files (final year-end release) in SPSS, dBaseIV, and SAS formats -- available on the NIOSH Mining Internet	2009	Web document	Surveillance and training
MSHA data files (final year-end release) in SPSS, dBaseIV, and SAS formats -- available on the NIOSH Mining Internet	2010	Web document	Surveillance and training
MSHA Fatality Profiles (quarterly releases and final year-end release)	2006	Web document	Surveillance and training
MSHA Fatality Profiles (quarterly releases and final year-end release)	2007	Web document	Surveillance and training
MSHA Fatality Profiles (quarterly releases and final year-end release)	2008	Web document	Surveillance and training
MSHA Fatality Profiles (quarterly releases and final year-end release)	2009	Web document	Surveillance and training
MSHA Fatality Profiles (quarterly releases and final year-end release)	2010	Web document	Surveillance and training
Multi-seam guidelines and NIOSH software support package. Published and presented at the 25th International Conference on Ground Control in Mining	2006	Publication (guidelines)	Ground control

Title	Year	Output Type	Strategic Goal
Multiple Seam Design Software - Open Industry Briefing to be held in Beckley, WV; Norton, VA; Pikeville, KY; and Grand Junction, CO	2006	Workshop, Seminar, or OIB	Ground control
Multiple Seam Design Software - Open Industry Briefing to be held in Beckley, WV; Norton, VA; Pikeville, KY; and Grand Junction, CO	2007	Workshop, Seminar, or OIB	Ground control
Multiple Seam Design Software - Open Industry Briefing to be held in Beckley, WV; Norton, VA; Pikeville, KY; and Grand Junction, CO	2008	Workshop, Seminar, or OIB	Ground control
Multiple Seam Designs for Harlan County, KY. Published and presented at the 26th International Conference on in Mining	2007	Publication	Ground control
Multiple Seam Mining in Western Mines. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
National Survey of the Mining Population - Report describing characteristics (e.g., use of independent contractors) of mines - peer reviewed journal article	2008	Publication	Surveillance and training
National Survey of the Mining Population - Report describing the survey methodology - peer reviewed journal article	2007	Publication	Surveillance and training
National Survey of the Mining Population - Survey methodology and workforce characteristics for each mining sector and work locations - NIOSH IC	2008	Publication	Surveillance and training
Near Field Effects Due to Blasting - Paper in the Proceedings of the Symposium on Engineering Geology and Geotechnical Engineering	2006	Publication	Ground control
New Methods to Determine Shotcrete Adhesion in Mines - International Journal of Rock Mechanics and Mining Science	2006	Publication	Ground control
New Training on the Use and Maintenance of the PDM - proceedings SME conference	2007	Publication	Respiratory diseases
New version of Clothes Cleaning Booth, which does not require a dust cleaning baghouse associated with it	2007	Video	Respiratory diseases
New version of the Clothes Cleaning Booth, JOEH	2007	Publication	Respiratory diseases
NIOSH Mining Safety and Health Thesaurus Users Manual (Glowacki, Unger) - NIOSH numbered publication	2007	Publication	Surveillance and training
NIOSH-PRL HLPB [2006]. Coal Noise Partnership Meeting/Workshop, at NIOSH/PRL. (2 per year)	2006	Workshop, Seminar, or OIB	Hearing loss
NIOSH-PRL HLPB [2006]. Noise workshop in Salt Lake City UT, Hosted by NIOSH-PRL, Mining Hearing Loss Prevention Workshop, April, 2006	2006	Workshop, Seminar, or OIB	Hearing loss
NIOSH-PRL HLPB [2007]. Coal Noise Partnership Meeting/Workshop, at NIOSH/PRL. (2 per year)	2007	Workshop, Seminar, or OIB	Hearing loss
NIOSH-PRL HLPB [2008]. Coal Noise Partnership Meeting/Workshop, at NIOSH/PRL (2 per year)	2008	Workshop, Seminar, or OIB	Hearing loss

Title	Year	Output Type	Strategic Goal
NIOSH-PRL HLPB [2009]. Coal Noise Partnership Meeting/Workshop, at NIOSH/PRL (2 per year)	2009	Workshop, Seminar, or OIB	Hearing loss
NIOSH-PRL HLPB [2010]. Coal Noise Partnership Meeting/Workshop, at NIOSH/PRL (2 per year)	2010	Workshop, Seminar, or OIB	Hearing loss
Nitrogen dioxide calibration standards for portable methanometers - 57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL	2006	Publication	Mine disasters
Novel Stopping Designs for Large Opening Metal/nonmetal Mines - Aggregate Manager Magazine	2006	Publication	Mine disasters
Numerical Model of Dry-Stacked Blocks. The International Journal of Rock Mechanics and Mining Science	2006	Publication	Ground control
Numerical Modeling of Coalbed Gas Reservoirs for Mine Safety Applications - American Association of Petroleum Geologists national meeting, peer reviewed	2007	Publication	Mine disasters
Numerical modeling of gas flow in U.S. coal mine gob areas with bleeder ventilation systems - 11th U.S./North American Mine Ventilation Symposium	2006	Publication	Mine disasters
Numerical Modeling of Gas Flows in the Longwall Mining Environment for Methane Drainage and Ventilation Planning - Proceedings, 11th US/North American Ventilation Symposium, State College	2006	Publication	Mine disasters
Numerical Modeling of Primary and Supplemental Support Interaction - SME Annual Meeting	2008	Publication	Ground control
Occurrence of Frictional ignitions in U.S. Underground Coal Mines - 11th U.S./North American Ventilation Symposium, State College	2006	Publication	Mine disasters
Occurrence of Frictional ignitions in US underground coal mines, NIOSH RI	2006	Publication	Mine disasters
Open Industry Briefing at the 2006 Northwest Mining Association Convention	2006	Workshop, Seminar, or OIB	Surveillance and training
Open Industry Briefing at the 2007 Northwest Mining Association Convention	2007	Workshop, Seminar, or OIB	Surveillance and training
Open Industry Briefing at the 2008 Northwest Mining Association Convention	2008	Workshop, Seminar, or OIB	Surveillance and training
Open Industry Briefing at the 2009 Northwest Mining Association Convention	2009	Workshop, Seminar, or OIB	Surveillance and training
Open Industry Briefing at the 2010 Northwest Mining Association Convention	2010	Workshop, Seminar, or OIB	Surveillance and training
Oral history video and training module on the Farmington No. 9 mine disaster	2006	Video	Surveillance and training

Title	Year	Output Type	Strategic Goal
Ore pass safety - inspection and hang-up removal, CD ROM, PDA Formats	2006	Training	Traumatic injuries
Ore pass safety training - personal protective equipment, CD ROM	2006	Training	Traumatic injuries
OSHA workshop for rollout of NIOSH's HazCom Helper - OSHA version (targets: conferences for oil and gas industry and asphalt batch plants)	2006	Workshop, Seminar, or OIB	Surveillance and training
Overview of Current and Emerging Technologies for Performing Blast Damage Assessment in Underground Mines - Paper in the Proceedings of the International Conference on Ground Control in Mining	2006	Publication	Ground control
Overview of Improved Mine Ventilation Practices in Large Opening Mines - Proceedings, 11th US/North American Ventilation Symposium, State College	2007	Publication	Mine disasters
Patent on filter medium suitable for quartz analysis with PDM	2007	Patent	Respiratory diseases
Patent on procedure to test integrity of enclosed cab filtration systems	2007	Patent	Respiratory diseases
PC game-based training - current trends, NIOSH IC	2006	Publication	Mine disasters
Performance Evaluation of an Exhaust-gas Cooling Device in an Underground Coal Mine - proceedings SME Annual Meeting	2007	Publication	Respiratory diseases
Performance of a light scattering dust monitor at various air velocities: Results of sampling in the active versus passive mode, Journal of Aerosol Science	2007	Publication	Respiratory diseases
Performance of a light scattering dust monitor for use in underground mines, Proceedings of 11th U.S. Mine Ventilation Symposium	2006	Publication	Respiratory diseases
Performance standards and recommended selection criteria for person wearable methane monitors - SME Transactions	2008	Publication (guidelines)	Mine disasters
Personal monitoring system for hot working environments, SME Proceedings	2010	Publication	Surveillance and training
Peterson JS [2006]. Design and Instrumentation of a Large Hemi-Anechoic Chamber. In: Proceedings of NOISE-CON 2006, Institute of Noise Control Engineering of the USA	2006	Publication	Hearing loss
Peterson JS [2007]. Estimating sound power radiated by surfaces on a roof bolting machine using vibration measurements. In: Proceedings of NOISE-CON 2007	2007	Publication	Hearing loss
Peterson JS [2008]. Evaluation of engineering noise controls for a roof bolting machine. In: Proceedings of NOISE-CON 2008	2008	Publication	Hearing loss
Peterson JS [2008]. NIOSH-RI, Summarizing the results related to engineering noise controls for Roof Bolting Machines	2008	Publication	Hearing loss
Peterson JS, Kovalchik PG, Matetic RJ [2007]. Noise source identification on a roof bolting machine using a beamforming technique, Society for Mining, Metallurgy, and Exploration, Inc., 2007 SME Conference	2007	Publication	Hearing loss
Pillar Design Guidelines for Underground Stone Mines. The SME Annual Meeting and Conference, 2007	2007	Publication	Ground control

Title	Year	Output Type	Strategic Goal
Pillar Design in Kentucky Stone Mines with Benching. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
Pillar Stability Issues Based on a Survey of Pillar Performance in Limestone Mines - International Conference on Ground Control in Mining	2006	Publication	Ground control
Porter, W, Kerna C, McClure, L, Gallagher S., Effects of Target Height and Bar Type on EMG and Force Generated in Simulated Mine Scaling Tasks - to be submitted to Applied Ergonomics	2006	Publication	Cumulative injuries
Post-Explosion Dust Analyses as a Method of Studying Coal Dust Explosions - journal publication	2007	Publication	Mine disasters
Potential for virtual reality training in the mining classroom, NIOSH IC	2007	Publication	Surveillance and training
Power line proximity warning alarm test results. IEEE Trans. on Ind. App.	2007	Publication	Traumatic injuries
Practical Guidelines for Monitoring the Ground Support Behavior of Cemented Backfill - SME Transactions Paper	2007	Publication	Ground control
Pre-driven Longwall Recovery Room Design Guidelines. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication (guidelines)	Ground control
Preventing dermatitis among underground miners, NIOSH IC	2007	Publication (guidelines)	Surveillance and training
Preventing injuries in the use of off-highway equipment	2006	Workshop, Seminar, or OIB	Cumulative injuries
Proposed Design Procedures for Pillars in Limestone Mines - Mining Engineering (refereed journal)	2007	Publication	Ground control
Protecting Neighbors and Workers from CO Migrating from Blast Sites - paper by Marcia L. Harris, Michael J. Sapko, and Richard J. Mainiero. Plan to publish in a peer reviewed journal, Journal of Safety Research	2006	Publication (guidelines)	Traumatic injuries
Protection from arcing injury in the aggregates industry - SME Journal (peer-reviewed)	2008	Publication	Traumatic injuries
Protection from arcing injury in the coal industry - IEEE Trans. on Ind. App.	2007	Publication	Traumatic injuries
Prototype machine powered personal cooling system	2007	Patent	Surveillance and training
Prototype personal monitoring system	2009	Patent	Surveillance and training
Proximity warning systems for mining and construction equipment - Association of Equipment Manufacturers safety seminar	2006	Workshop, Seminar, or OIB	Traumatic injuries
Proximity Warning Systems for Surface Mining Equipment - Evaluations and Recommendations - NIOSH RI	2006	Publication (guidelines)	Traumatic injuries
Pumpable Crib Designs for Deep Western Mines. Published and presented at the 28th International Conference on Ground Control in Mining	2009	Publication	Ground control

Title	Year	Output Type	Strategic Goal
Pumpable Cribs - The next paradigm shift in tailgate support. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication	Ground control
Quantitative Damage Assessment Techniques Employing Laser Scanning Technology - Ph.D dissertation	2008	Publication	Ground control
Railcar and rail yard ergonomics issues and the reduction of ergonomic risk factors - NIOSH Information Circular	2007	Publication	Cumulative injuries
Randolph RF, Byrne DC, Hudak RL [2006]. Effectiveness of a simplified earplug insertion technique on attenuation performance. Journal of the Acoustical Society of America (refereed)	2006	Publication	Hearing loss
Randolph RF, Hudak RL [2006]. Effect of simplified feedback on earplug insertion performance. Journal of Occupational and Environmental Hygiene. (refereed)	2006	Publication	Hearing loss
Randolph RF, Kissell FN [2006]. The effect of an insertion lubricant on the noise attenuation of foam earplugs. Journal of Occupational and Environmental Hygiene. (refereed)	2006	Publication	Hearing loss
Randolph RF, Reinke DC [2006]. NIOSH hearing loss simulator instruction and training guide. NIOSH numbered publication	2006	Publication	Hearing loss
Randolph RF, Reinke DC, Hudak RL [2007]. Roll-Pull-Hold earplug technique training package (NIOSH numbered publication)	2007	Training	Hearing loss
Randolph RF, Reinke DC, Hudak RL [2008]. Effectiveness of participative teams for hearing loss prevention. Journal of Occupational Environmental Hygiene. (refereed)	2008	Publication	Hearing loss
Randolph RF, Reinke DC, Hudak RL [2008]. Evaluation of hearing loss prevention program. Ear and Hearing. (refereed)	2008	Publication	Hearing loss
Randolph RF, Reinke DC, Hudak RL [2008]. Guidelines for worker empowerment for "best practices" hearing loss prevention program - NIOSH numbered publication	2008	Publication (guidelines)	Hearing loss
Randolph RF, Reinke DC, Hudak RL [2008]. Guidelines for worker empowerment for "best practices" hearing loss prevention program - Web content	2008	Web document	Hearing loss
Randolph RF, Reinke DC, Hudak RL [2008]. Team-based hearing loss communication interventions. Journal of Health Communication. (refereed)	2008	Publication	Hearing loss
Randolph RF, Reinke DC, Unger RL, Byrne DC, Kohler JL [2006]. Needs evaluation of the NIOSH hearing loss simulator. Journal of Occupational Environmental Hygiene. (refereed)	2006	Publication	Hearing loss
Real-time Seismic Monitoring of a 100-Square Mile Longwall Coal Mining District - Paper in the Proceedings of the International Conference on Ground Control in Mining	2009	Publication	Ground control
Recommendation to MSHA and Coal Diesel Partnership on determining diesel engine ventilation rates at simulated high altitudes	2006	Standards	Respiratory diseases
Recommendation to MSHA and Coal Diesel Partnership on the use of insulation to supplement water-jacketing, for permissible diesel engines	2007	Standards	Respiratory diseases

Title	Year	Output Type	Strategic Goal
Recommendations and guidelines for selection and use of flammable materials in the M/NM mining industry, NIOSH RI	2007	Publication	Mine disasters
Recommendations for conversion of bulldozers to remote control - peer reviewed publication, SME Transactions	2007	Publication	Traumatic injuries
Recommendations for scaling bar design and use - NIOSH Information Circular	2007	Publication	Cumulative injuries
Redesigned PRL visitor information package - NIOSH numbered publication	2008	Publication	Surveillance and training
Reducing Roof Bolter Operator Dust Exposures with a Canopy Air Curtain - Mining Engineering	2007	Publication	Respiratory diseases
Reducing the Rock Fall Hazard in Coal Mines with Low Strength Roof - guidelines for combined support systems for weak roof. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication (guidelines)	Ground control
Reducing the Rock Fall Hazard in Coal Mines with Low Strength Roof - guidelines for mine layout to control horizontal stress. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication (guidelines)	Ground control
Reducing the Rock Fall Hazard in Coal Mines with Low Strength Roof - guidelines for optimum panel lengths to minimize falls. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication (guidelines)	Ground control
Reducing the Rock Fall Hazard in Coal Mines with Low Strength Roof - guidelines for rock testing during geological exploration. Published and presented at the 26th International Conference on Ground Control in Mining	2006	Publication (guidelines)	Ground control
Reeves ER [2006]. Noise control in underground metal mining. Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH IC) Publication No. In review, Dec.	2006	Publication	Hearing loss
Reeves ER [2008]. Guidelines for matching hearing protectors to workers and settings - NIOSH numbered publication	2008	Publication (guidelines)	Hearing loss
Reeves ER, [2006], Errors Made in the Application of Noise Controls, Mining Engineering Magazine, 2006 (refereed)	2006	Publication	Hearing loss
Reformulated Fuels and After Treatment Technology Effectiveness in Controlling Diesel Emissions. Stillwater Mining Co. Nye Mine Study - NIOSH RI	2006	Publication	Respiratory diseases
Reinforcing the Importance of Maintaining Good Blast Area Security	2006	Video	Ground control
Reinke DC, Barrett EA, Jurovcik P, Yantek DS, Ingram DK, Urban C [2006]. Partial Cab: An engineering noise control for drill rigs. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH IC) Publication No. Feb, 2006	2006	Video	Hearing loss
Reinke DC, Ingram DK, [2006], NIOSH's health and safety materials for water well drillers, National Ground Water Association, Water Well Journal, June 2006	2006	Publication	Hearing loss

Title	Year	Output Type	Strategic Goal
Reinke DC, Jurovcik P, Fotta B [2006]. Recording Workplace Observations in Real Time Using 'PDA's'. Journal of Health, Safety and Environmental Research, 2006. (refereed)	2006	Publication	Hearing loss
Reinke DC, Randolph RF [2008]. Guidelines on reducing barriers to adoption of noise control technologies - NIOSH numbered publication	2008	Publication (guidelines)	Hearing loss
Reinke DC, Randolph RF [2008]. Guidelines on reducing barriers to adoption of noise control technologies - Web content	2008	Web document	Hearing loss
Relationship Between Ground Motions, Seismic Event Magnitude and Distance at a Western Longwall Coal Mine - peer reviewed paper in the Journal of Geophysical Research	2007	Publication	Ground control
Remotely Installed Mine Seals for Mine Fire Control - Transactions, Society for Mining, Metallurgy and Exploration, Inc. Annual Meeting, St. Louis, peer reviewed	2006	Publication	Mine disasters
Report to Coal Diesel Partnership on the implementation of diesel particulate filters in West Virginia coal mines - Partnership Report	2006	Publication	Respiratory diseases
Report to the partnerships on the results from the Jerritt Canyon mine study - Partnership Report	2007	Publication	Respiratory diseases
Report to the partnerships on the results of the Johnson-Matthey CRT tests - Partnership Report	2006	Publication	Respiratory diseases
Report to the partnerships on the results of the Rohmac heat exchanger tests - Partnership Report	2006	Publication	Respiratory diseases
Reservoir Simulation-based Modeling for Characterizing Longwall Methane Emissions and Gob Gas Venthole Production - International Journal of Coal Geology, peer reviewed	2006	Publication	Mine disasters
Resin Grouted Cable Supports - 15 years and 15,000 miles of Strand. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
Results of characterization of welding fume resulting from hardfacing (high manganese welding rods), Injury Prevention Magazine	2008	Publication	Surveillance and training
Results of Field Testing for Controlled Blasting at the CSM Experimental Mine - peer reviewed journal, ISEE Journal	2007	Publication	Ground control
Results of fume formation rates for welding mild steel (hardfacing with high manganese rods), Mining Engineering	2007	Publication	Surveillance and training
Results of Hydrostatically Testing the Micon 550 Seal to Failure - Journal Paper	2006	Publication	Mine disasters
Results of mapping welding fume particle size distribution in real time and location - Applied Occupational and Environmental Hygiene	2010	Publication	Surveillance and training
Results of new methodology for tracking welding fumes in mines, SME Proceedings	2009	Publication	Surveillance and training
Rock Mass Classification System for Limestone Mines. Peer-reviewed Rock Mechanics Journal	2008	Publication	Ground control
Roof bolter operator low back stress analysis - Journal of Safety Research	2006	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
Roof Fall Warning Systems for Underground Stone Mines. SME Annual Meeting, 2007	2007	Publication	Ground control
Roof Screening - Why did it take so long? Published and presented at the 28th International Conference on Ground Control in Mining	2009	Publication	Ground control
Roof Stability Mechanics in Limestone Mines - 2007 U.S. Rock Mechanics Symposium	2007	Publication	Ground control
Root causes of flame cutting and welding fires in the U. S. coal mining industry - Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer-reviewed	2006	Publication	Mine disasters
Ruff, T. [2006] Evaluation of a Radar-based Proximity Warning System for Off-highway Dump Trucks, Accident Analysis and Prevention, 38(1); :92-98	2006	Publication	Traumatic injuries
Safe and Ergonomic Methods to Install Roof Screen	2008	Video	Ground control
Safer mine electrical maintenance - NIOSH Information Circular	2010	Publication	Traumatic injuries
Safety Advances in Roof Bolt Selection. Published and presented at the 28th International Conference on Ground Control in Mining	2009	Publication	Ground control
Safety in Blasting - Frag Blast conference paper	2008	Publication	Ground control
Safety Shorts mine safety video series	2006	Video	Surveillance and training
Seismically Determined Longwall Coal Mine Failure Mechanisms - peer reviewed paper in the International Journal of Rock Mechanics and Mining Science	2008	Publication	Ground control
Selected Technology Effectiveness in Controlling Diesel Emissions in an Underground Mine - Isolated Zone Study at Stillwater Mining Co. Nye Mine - NIOSH RI	2007	Publication	Respiratory diseases
Selection and use of electrical meters in mining - Min. Engr.	2008	Publication	Traumatic injuries
Self-reported musculoskeletal symptoms and psychosocial risk factors among operators of heavy mobile equipment, Scandinavian Journal of Work, Environment, and Health	2007	Publication	Cumulative injuries
Seminar on virtual reality in mine training	2007	Workshop, Seminar, or OIB	Surveillance and training
Significant dust dispersion models for mining operations - NIOSH IC	2006	Publication	Respiratory diseases
Simple solutions ergonomics publication for surface mining - NIOSH IC	2009	Publication	Cumulative injuries
Simple solutions ergonomics publication for underground mining - NIOSH IC	2006	Publication	Cumulative injuries
Simulations of the oxidation of coal in the gob area under different bleeder and bleederless ventilation schemes, Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2007	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
Slender Pillar Stability in Underground Limestone Mines. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
Society for Mining, Metallurgy and Exploration, Inc. Pittsburgh Section, Mine Seal Construction Seminar	2006	Workshop, Seminar, or OIB	Mine disasters
Society of Mining Engineering 2008 Annual Meeting and Exhibit: Sand and Gravel Noise Surveys, 2008	2008	Publication	Hearing loss
Software and users manual for assisting mine operators to select, implement, and evaluate administrative controls, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Pittsburgh, PA: DHHS (NIOSH IC) Publication No., 2007	2007	Software	Hearing loss
Software Package: ARMPMS-MSM (multiseam mining)	2006	Software	Ground control
Software Solutions for Coal Mine Bleeder Pillar Designs. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication	Ground control
Soluble Silver Method - Peer-reviewed paper in the Journal of Environmental Monitoring. Expected publication date - January 2006	2006	Publication	Surveillance and training
Soluble Silver Method, NIOSH Manual of Analytical Methods	2007	Publication	Surveillance and training
Some New insights Regarding the Application of the Split Hopkinson Bar for Determining the Dynamic Properties of Rock - U.S. symposium on rock mechanics	2007	Publication	Ground control
Sprayable Liner Flexibility Tests on Low RMR Rock Types - Paper in the Proceedings of the International Conference on Mechanics of Jointed and Faulted Rock	2006	Publication	Ground control
Spreadsheet applications in modeling the economic costs of safety applications of engineering controls, NIOSH RI	2007	Publication (guidelines)	Surveillance and training
Standing Supports for Deep Cover. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
State-of-the-art Bulkhead Installations and Safety Issues in Underground Mines - Journal publication	2006	Publication	Mine disasters
STE Illumination Model	2006	Software	Traumatic injuries
Stress at work: issues for the mining industry, Journal of Occupational and Environmental Medicine	2006	Publication	Respiratory diseases
Summary data for mines, employment, injuries, and illnesses -- available on the NIOSH Mining Internet	2006	Web document	Surveillance and training
Summary data for mines, employment, injuries, and illnesses -- available on the NIOSH Mining Internet	2007	Web document	Surveillance and training
Summary data for mines, employment, injuries, and illnesses -- available on the NIOSH Mining Internet	2008	Web document	Surveillance and training
Summary data for mines, employment, injuries, and illnesses -- available on the NIOSH Mining Internet	2009	Web document	Surveillance and training

Title	Year	Output Type	Strategic Goal
Summary data for mines, employment, injuries, and illnesses -- available on the NIOSH Mining Internet	2010	Web document	Surveillance and training
Summary of LLEM Explosion Research, 1999 to 2004 - NIOSH RI	2007	Publication	Mine disasters
Summary of LLEM Explosion Research, 2005 to 2008 - NIOSH RI	2009	Publication	Mine disasters
Support Pillar Behavior During Retreat Mining in a Lead/Zinc Mine - paper at International Backfill Symposium	2008	Publication	Ground control
Survey of Pillar Performance in Underground Limestone Mines - Open Industry Briefing (OIB) Underground Stone Safety Conference	2006	Workshop, Seminar, or OIB	Ground control
Survey of Roof Stability in Limestone Mines - 2007 meeting of the Society for Mining, Metallurgy, and Exploration (SME)	2007	Publication	Ground control
Survival analytic approach to evaluating struck-by accidents using a virtual human model - Journal of Human Factors	2006	Publication	Traumatic injuries
Technical evaluation of the coal dust explosibility meter - Transactions, Society for Mining, Metallurgy and Exploration Annual Meeting, peer reviewed	2006	Publication	Mine disasters
The Application of Laser Scanning & Digital Photography in Assessing the Stability of Underground Mine Workings - Mining R&D News	2008	Publication	Ground control
The Coal Mine Roof Rating (CMRR) - A Decade of Experience. J. of Coal Geology, in press	2006	Publication	Ground control
The Costs of Mining Injuries in the Western U.S.: An Economic Analysis - peer reviewed journal article	2008	Publication	Surveillance and training
The Design of Intersections Subjected to High In Situ Stress. Published and presented at the 28th International Conference on Ground Control in Mining	2009	Publication	Ground control
The Development of a Finite Element Biomechanical Model of the Knee - model completed and will be submitted to Clinical Biomechanics journal	2007	Publication	Cumulative injuries
The Development of a Healthy Knee Module for Low Seam Coal Miners - Journal of Safety Research	2006	Publication	Cumulative injuries
The dust control capability of mist drilling for roof bolters, SME Transactions	2007	Publication	Respiratory diseases
The dust control effectiveness of wet-head sprays on a continuous miner, SME Transactions	2008	Publication	Respiratory diseases
The Effect of Resin Insertion Bolting Pressures on Roof Stability. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
The Effect of Stress on Weak Roof. Published and presented at the 27th International Conference on Ground Control in Mining	2008	Publication	Ground control
The Effects of Humidity on Sedimentary Rocks. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication	Ground control

Title	Year	Output Type	Strategic Goal
The effects of PuroNOx on diesel particulate matter emissions in underground metal/nonmetal mines, Journal of Aerosol Science	2007	Publication	Respiratory diseases
The effects of water spray placement for controlling respirable dust and face gas concentrations, Journal of Mine Vent Soc of SA	2007	Publication	Respiratory diseases
The elemental carbon content in DPM from vehicles in underground mines and the effects of control technologies on those emissions, Proceedings of 11th US/North American Mine Vent Symposium	2006	Publication	Respiratory diseases
The Evaluation of New Knee Pad Designs to Prevent Injuries in Low Seam Coal Miners - to be submitted to peer-reviewed Ergonomics and SME journals	2007	Publication	Cumulative injuries
The First Critical Hours: Before the Mine Rescue Team Arrives, Proceedings, Sixth International Conference on Occupational Stress & Health "Making a Difference in the Workplace"	2006	Publication	Mine disasters
The impact of water application for shield dust control, SME Transactions	2008	Publication	Respiratory diseases
The influence of Geologic Factors on in situ Methane Contents and Gas Emissions - Proceedings, 11th US/North American Ventilation Symposium, State College	2006	Publication	Mine disasters
The NIOSH Initiative for Promoting Safer, More Economic Drifting in Underground Metal/Non-Metal Mines, Proceedings of the International Symposium Fragblast -8, Santiago, Chile, 2006 (abstract accepted)	2006	Publication	Ground control
The Relationship between Muckpile Geometry and Fragmentation with Blasting Performance and Underground Stability - Mining Engineering (peer reviewed journal article)	2008	Publication	Ground control
The relationship between workplace stress and abnormalities of the Hypothalamic-Pituitary-Adrenal (HPA) axis, Journal of Occupational and Environmental Medicine	2007	Publication	Respiratory diseases
The Role of Surveillance in Mining Safety and Health Research - peer reviewed journal article	2007	Publication	Surveillance and training
The use of new technologies to train new miners	2007	Training	Surveillance and training
The Use of String Charges for Perimeter Control in Drifting - Canadian Mining Journal (peer reviewed journal article)	2007	Publication	Ground control
Theoretical Fundamentals of the New NIOSH Controlled Blasting Software - Paper in International Journal of Rock Mechanics and Mining Science	2006	Publication	Ground control
Through Their Eyes: An Oral History of the Sunshine Mine Disaster - NIOSH IC	2006	Publication	Surveillance and training
Tools for safer mine electrical maintenance - Min. Engr.	2008	Publication	Traumatic injuries
Topic page linked to NIOSH Economics Forum Internet page	2008	Web document	Surveillance and training

Title	Year	Output Type	Strategic Goal
Torma-Krajewski, J., Steiner, L., Lewis, P., Gust, P., Johnson, K. Ergonomics and Mining: Charting a Path to a Safer Workplace, NIOSH Information Circular	2006	Publication	Cumulative injuries
Torma-Krajewski, J., Steiner, L., Wiehagen, W., Unger, R., Lewis, P., Gust, P., Johnson, K. Ergonomics and Mining: Oil and Water or Cream and Sugar. Submitted to the International Journal of Industrial Ergonomics. In review, peer reviewed	2006	Publication	Cumulative injuries
Toxicology effects of welding fume from hardfacing, Journal of Occupational and Environmental Medicine	2010	Publication	Surveillance and training
Train-the-Trainer Materials for Building Better Jobs: (1) Concept and implementation; (2) Tool design; (3) Anthropometrics and biomechanics for design; (4) Maintenance; (5) Equipment purchasing and retrofitting; and (6) Control design	2008	Training	Cumulative injuries
Training in Using the ROSS, Profilometer, and/or Anchorage Measurement Device to Optimize Support Design	2007	Training	Ground control
Training interventions for enhancing the communications/decision making process during the initial phase of a mine emergency, such as a fire or explosion - NIOSH IC	2006	Publication	Mine disasters
Training Materials for MSHA and the mining industry on explosion hazard recognition and preventive measures for underground coal mines - NIOSH RI	2006	Publication	Mine disasters
Training Materials for MSHA and the mining industry on explosion hazard recognition and preventive measures for underground coal mines - NIOSH Video	2006	Video	Mine disasters
Training Materials on Preventing Injuries from Operating Mobile Equipment: Focus on Ingress/Egress and Vibration - Industrial Minerals Association of North America workshop (Pittsburgh, PA)	2006	Training	Cumulative injuries
Training Module for Coal Mine Health and Safety Technicians on how to Maintain the PDM - NIOSH IC	2006	Publication	Respiratory diseases
Training Module for Coal Miners on the Purpose and Operation of the PDM - NIOSH IC	2006	Publication	Respiratory diseases
Transverse Load Capacities of Dry-Stacked Block Mine Ventilation Stoppings Under Rigid Arching Loading Conditions - 11th U.S./North American Mine Ventilation Symposium, Penn State University, June 5-7, 2006	2006	Publication	Ground control
Transverse Loading Capacities of Dry-Stacked Blocks. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication	Ground control
Trends in overhead power line electrocution accidents statistics - IEEE Trans. on Ind. App	2009	Publication	Traumatic injuries
Underground Stone Design Guidelines for Entry Design. Mining Engineering, Refereed Journal	2008	Publication (guidelines)	Ground control
Underground Stone Design Guidelines for Pillar Design. Mining Engineering, Refereed Journal	2007	Publication (guidelines)	Ground control
Underreporting of Nonfatal Injuries and Disease/Illness in U.S. Mining, Journal of Occupational and Environmental Medicine	2006	Publication	Surveillance and training

Title	Year	Output Type	Strategic Goal
Use of cost modeling in occupational safety and health research, Cost Engineering	2006	Publication	Surveillance and training
Use of cost modeling in safety research, Journal of Safety Research	2007	Publication	Surveillance and training
Use of virtual reality technologies in mine training, NIOSH IC	2008	Publication	Surveillance and training
Users Guide for the Bplane, Bstepp, and Bwedge Computer Programs - NIOSH IC	2006	Publication	Ground control
Using General Linear Models to Analyze Miner Experience vs Injury Frequency and Severity - peer reviewed journal article	2006	Publication	Surveillance and training
Using Monitoring Technologies to Warn of Roof Fall Occurrences - SME Annual Meeting, St. Louis	2006	Publication	Ground control
Using proximate analysis to characterize airborne dust generation from bituminous coals - Coal Age	2006	Publication	Respiratory diseases
Using Zero Incidence to Drive Mining Safety and Health Programs - peer reviewed journal article	2009	Publication	Surveillance and training
Utility of hazard communication inventory lists and EPA TRI reports for estimating chemical hazards in mining, Journal of Environmental Science and Technology	2007	Publication	Respiratory diseases
Utilizing Spot Scrubbers to Reduce Dust Levels on Continuous Mining Machines - SME transactions	2008	Publication	Respiratory diseases
Ventilation Design for Large-Opening Mines - NIOSH IC	2009	Publication	Mine disasters
Video for seat/posture training in mobile equipment	2007	Video	Cumulative injuries
Video motion detection for real-time hazard warnings in surface mines (EIR)	2007	Patent	Ground control
Video Motion Detection for Real-time Hazard Warnings in Surface Mines - peer reviewed journal article	2008	Publication	Ground control
Video motion detection for real-time hazard warnings in surface mines - RI	2007	Publication	Ground control
Video on implementing and development of vibrating screen noise controls, 2009	2009	Video	Hearing loss
Video on implementing and the development of roof bolting machines noise controls, 2008	2008	Video	Hearing loss
Video on maintenance shop safety	2006	Training	Traumatic injuries
Video production on Mobile Equipment Operator Workstations	2007	Video	Cumulative injuries
Videotapes, workbooks and similar training interventions to transfer research findings to the mining industry - NIOSH communications	2007	Training	Mine disasters
Vipperman JS, Bauer ER, Babich DR [2006]. Survey of noise in coal preparation plants. Journal of Acoustical Society of America, Submitted to Journal. (refereed)	2006	Publication	Hearing loss
VR Map Reading Training Module	2006	Software	Mine disasters
VR Mine Evacuation Training at SRL, Mining Engineering	2006	Publication	Mine disasters

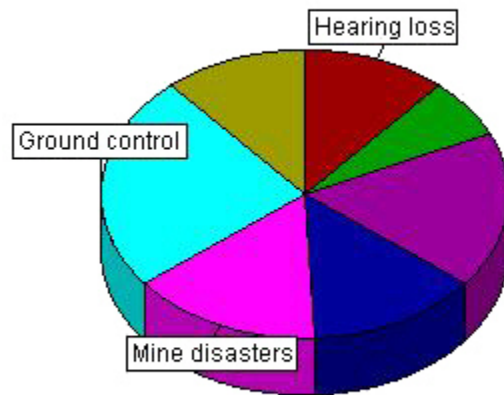
Title	Year	Output Type	Strategic Goal
VR Mine Evacuation Training Module	2009	Software	Mine disasters
Weak Roof Rock and Rock Fall Injuries - Case Study. Published and presented at the 26th International Conference on Ground Control in Mining	2007	Publication	Ground control
Web module: Ergonomic Principles for Better Jobs Design	2009	Web document	Cumulative injuries
Website for VR Miner Safety Training	2007	Web document	Mine disasters
Weiss ES, Cashdollar KL, Harteis SP, Shemon GJ, Beiter DA, Urosek JE - Explosion Evaluations of Ventilation Stoppings. NIOSH RI	2006	Publication	Mine disasters
Working Mine Ventilation Layouts for Large Opening Stone Mines - Proceedings, 11th US/North American Ventilation Symposium, State College	2006	Publication	Mine disasters
Workshop presentation to IMA-NA members on Railcar and Railyard Ergonomics	2006	Workshop, Seminar, or OIB	Cumulative injuries
Workshops and training aids to transfer flame cutting and welding research findings to the coal mining industry [2007-2008]	2008	Workshop, Seminar, or OIB	Mine disasters
Yantek DS [2006]. Noise source identification on horizontal vibrating screens using a beamforming technique, Society for Mining, Metallurgy, and Exploration, Inc., 2006 SME Conference	2006	Publication	Hearing loss
Yantek DS [2007]. Estimating sound power radiated by horizontal vibrating screens, Proceedings of NOISE-CON 2007, In: Institute of Noise Control Engineering of the USA	2007	Publication	Hearing loss
Yantek DS [2008]. Evaluation of engineering noise controls for horizontal vibrating screens. Proceedings of NOISE-CON 2008: Institute of Noise Control Engineering of the USA	2008	Publication	Hearing loss
Yantek DS [2008]. NIOSH-RI, Summarizing the results related to engineering noise controls for horizontal vibrating screens	2008	Publication	Hearing loss

Planned Outputs Summary

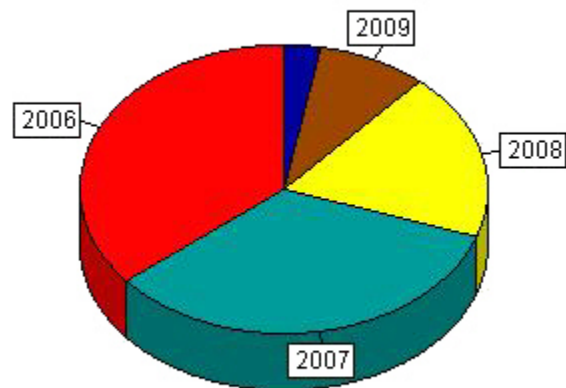
Total Planned Outputs: 587

Note - Percentage totals may not equal 100% due to rounding errors.

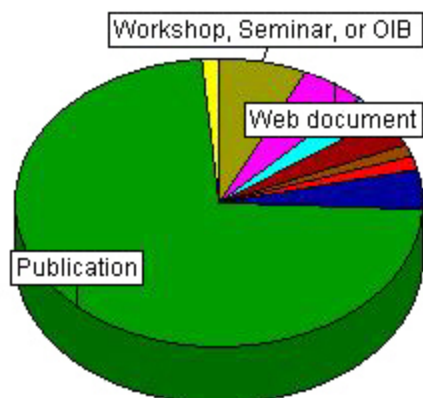
Strategic Goals	N	%
Cumulative injuries	67	11.4
Ground control	142	24.2
Hearing loss	67	11.4
Mine disasters	89	15.2
Respiratory diseases	80	13.6
Surveillance and training	103	17.5
Traumatic injuries	39	6.6



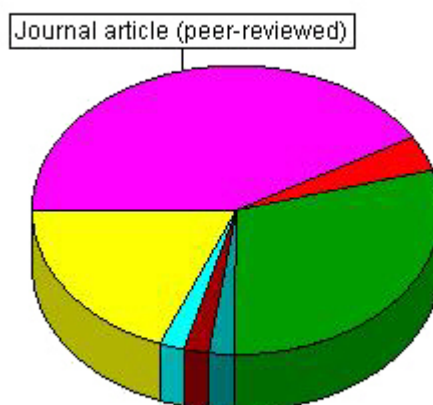
Year	N	%
2006	211	35.9
2007	198	33.7
2008	110	18.7
2009	51	8.7
2010	17	2.9



Output Types	N	%
Patent	8	1.4
Publication	428	72.9
Publication (guidelines)	26	4.4
Software	9	1.5
Standards	8	1.4
Training	20	3.4
Video	17	2.9
Web document	30	5.1
Workshop, Seminar, or OIB	41	7



Publication Type	N	%
Book/book chapter/dissertation	7	1.5
Brochure-flyer	7	1.5
Conference proceedings	138	30.4
Journal article (not peer-reviewed)	16	3.5
Journal article (peer-reviewed)	190	41.9
NIOSH/USBM numbered	85	18.7
Other	10	2.2
Technology News	1	0.2



How Planned Outputs are Categorized

Planned outputs are externally-distributed publications and products that the NIOSH Mining Program expects to develop over the next 5 years. The following taxonomies are used to categorize these outputs:

Strategic Goal

Outputs are categorized according to the Strategic Goal (see Section 1.5) addressed by the research:

- **Respiratory diseases** - Reduce respiratory diseases in miners by reducing health hazards in the workplace associated with coal worker pneumoconiosis, silicosis, and diesel emissions.
- **Hearing loss** - Reduce noise-induced hearing loss (NIHL) in the mining industry.
- **Cumulative injuries** - Reduce repetitive/cumulative musculoskeletal injuries in mine workers.
- **Traumatic injuries** - Reduce traumatic injuries in the mining workplace.
- **Mine disasters** - Reduce the risk of mine disasters (fires, explosions, and inundations); and minimize the risk to, and enhance the safety and effectiveness of, emergency responders.
- **Ground control** - Reduce ground failure fatalities and injuries in the mining industry.
- **Surveillance and training** - Determine the impact of changing mining conditions, new and emerging technologies, and the changing patterns of work on worker health and safety.
- **All** - Outputs related to all strategic goals of the Mining Research Plan. This includes technology transfer / health communications efforts and mining research program planning and tracking.

Output Type

Outputs are also categorized by Output Type:

- **Patent** - A U.S. or foreign patent granted for a NIOSH invention.
- **Publication** - An officially-published document (excludes Web documents.)
- **Publication (guidelines)** - A publication that recommends a policy or procedure.
- **Web document** - A document developed solely for Web distribution that has not been officially published and is currently available on the NIOSH Mining Safety and Health Research web site (obsolete web documents are not listed.)
- **Software** - A computer program.
- **Standards** - Recommended rules or guidelines for conducting an activity or task, utilizing a product, etc. that are approved by a recognized standards organization or accepted as a de facto standard by the industry.
- **Training** - An educational material comprising an instructor's guide with tested educational materials and supporting documents designed to meet stated educational objectives (Note - if published as a government numbered document, a training material is instead classified as a Publication.)
- **Video** - A videocassette, videotape, or electronic video

- **Workshop/Seminar/OIB** - An event organized by the NIOSH Mining program, usually to educate the mining industry on particular safety and health issues or research developments.

Publication Type

All publications (outputs with an Output Type of Publication or Publication (guidelines)) are further classified by the specific type of publication.

Published by NIOSH:

- **Hazard Controls/IDs** - Hazard Controls describe control techniques to reduce hazardous exposures to workers in a particular application/industry process. Hazard IDs summarize results of NIOSH studies at a specific worksite, identify new or current health and safety hazards, and offer the best recommendations for control or prevention. Both are brief, 1-2 page documents.
- **Technology News** - One-page flyers used to announce a milestone in mining health and safety research, technology ready for transfer to industry, or an opportunity for cooperative research and development.
- **NIOSH/USBM numbered** - Documents published by DHHS (NIOSH), including Information Circulars (ICs), Reports of Investigation (RIs), Special Publications, and other numbered publications.

Published by external sources:

- **Book/book chapter/dissertation** - Includes PhD dissertations; however, masters theses are classified as Other.
- **Conference proceedings** - Papers published in conference proceedings in either print or electronic format (e.g., CD-ROM.)
- **Journal article (peer-reviewed)** - Papers published in journals that have undergone a blind peer-review.
- **Journal article (not peer-reviewed)** - Papers published in journals that have not undergone a blind peer-review.

Published by both NIOSH and external sources:

- **Brochure/flyer** - Includes pamphlets, brochures, and flyers. Also includes NIOSH Fact Sheets with surveillance data on fatalities, injuries, and illnesses for various mining commodities.
- **Other** - Other publications not elsewhere classified. Includes contract and MOA reports, MSHA reports, masters theses, bulletins, newsletters, newsletter articles, etc.